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No Oasis in the Desert: Identification and Implications of the Food Desert around an Urban Ohio Hospital

R. J. Sontag  
Wright State University - Main Campus, sontag.3@wright.edu

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Introduction
Montgomery County, Ohio’s diabetes prevalence outpaces the nation, and the incidence of adult obesity approaches 1/3.10

Purpose: To determine whether the area was a food desert and to evaluate the implications of the label.

Methods
- Database search
- Review of current literature (2009-2014) using Web of Science database and search term "food desert."
- Other sources considered
  - Additional references considered in this narrative review include sources outside the date range, but which were referenced in reviewed papers.
- Food Atlas search
  - The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) maintains a Food Access Research Atlas, searchable by address.
  - Community sources accessed
    - Multiple stakeholders are researching the Dayton food system, and they provide unique insights into the current environment.

Results

How a census tract qualifies as a food desert

<table>
<thead>
<tr>
<th>Low Income</th>
<th>More than 20% in poverty</th>
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<tbody>
<tr>
<td>Low Access</td>
<td>More than a half mile from a supermarket</td>
</tr>
<tr>
<td>Low Vehicle Access</td>
<td>More than 100 households without vehicle access</td>
</tr>
</tbody>
</table>

Supermarket Presence
- Existence of stores with more than $2 million in annual sales of food including produce, meat, dairy, dry or packaged foods, and frozen foods. In the area surrounding Good Samaritan Hospital, examples of stores meeting this definition include Kroger and Save A Lot.5,6

Figure 1. (Below) Low Access in Montgomery County, BMI below in Montgomery Co and Ohio compared US rates.

Body Mass Index rates by category

Figure 2. (Above) USDA ERS Food Access Research Atlas Good Samaritan Hospital. The yellow shading represents census tracts with Low Income, Low Access, and Low Vehicle Access.5,6

Figure 3. (Above) The grocery offerings inside a nearby market feature simple carbohydrates and no produce.

Figure 4. (Above) Good Samaritan Hospital and the local market is in the shadows. Both lie in a census tract designated as a food desert.

Figure 5. (Left) Inside AM PM Market. Bottled water, soda and ice cream choices, a limited selection of healthy options is displayed. The produce shows signs of age.

Figure 6. From the Dayton Food Finder.

Conclusions
The implications of food deserts on diseases commonly seen by family physicians, including diabetes and obesity, are complex and may be part of the multifactorial causes of these diseases.

Physicians should consider food access, affordability, and quality when working with patients to develop plans for improving food choices.

Improved health literacy is essential to changing eating habits, and focusing solely on improving food access will not solve the problem.

Food access in a defined food desert may still be adequate, despite the potential limitations of distance and vehicle access.

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Do food deserts matter?
Adding grocery options in a food desert may not improve fruit and vegetable consumption nor BMI.3,7

On average, Supplemental Nutrition Assistance Program (SNAP) “participants live 1.8 miles from the nearest supermarket but traveled 4.5 miles to the foodsource that most often used.”11

Federal policy makers consider the current food desert research to be inconclusive, and they question the importance of food desert mapping.5

Local efforts
Young professional group UpDayton work to improve food access education by developing the Food Finder (Figure 6). Their map and listings account for typical grocery stores, markets, convenience stores, specialty stores, and travelled options.5 So far the focus has not been on the neighborhood including Good Samaritan Hospital.